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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,912	05/14/2002	Michael O'Connor	42390.P3674R	1765

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EXAMINER

VORTMAN, ANATOLY

ART UNIT PAPER NUMBER

2835

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,912

Applicant(s)

O'CONNOR ET AL.

Examiner

Anatoly Vortman

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32, 35-42, 45-48 and 52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32, 35-42, 45-48 and 52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Reissue Application

Amendment

1. The submission of the amendment filed on 06/20/05 is acknowledged. At this point all independent claims of record 1, 9, 16, 19, 20, 28, 35, 36, 37, 45, and 52 have been amended. Claims 33, 34, 43, 44, and 49-51 have been previously cancelled. No other amendments to the pending claims have been made. Thus, claims 1-32, 35-42, 45-48, and 52 are pending in the instant application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-32, 35-42, 45-48, and 52 (i.e. all pending claims), are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter added by the amendment, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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All independent claims of record have been amended to recite that the heat pipe being attached to the structure via a “clamp”.

The specification of the underlying US/5,966,286 for which reissue is sought, despite mentioning that the heat pipe may be mounted via a clamp, nonetheless is lacking adequate teaching regarding the structure of the clamp and how said heat pipe is mounted via said clamp.

The Fig. 1A, 1B, and 2, despite depicting the clamp (24), do not show however the structure of the clamp and how it holds the heat pipe.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 9-14, 16-26, 28-32, 35-42, 45-48, and 52, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over US/5,583,316 to Kitahara et al., (Kitahara).

Regarding claims 1, 2, 5-7, 9,10, 12-14, 16-18, 20, 24-26, 28, 30, 35, 37, 21, 29, 38, 41, 42, and 45-48, Kitahara disclosed (Fig. 72, 73) an apparatus comprising: an air duct (3) comprising a housing made of thermally conductive material (aluminum, column 2, line 28) and (2, 91-94) having internal fins along an internal surface (can be clearly seen on member (2)), said air duct dividing and directing divided air flow from an inlet port (92) located near the middle (central point) of said air duct to a first and a second opposing exit ports located at opposite ends

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of said air duct (these exit ports are: port (98) at the left end of said air duct and another one (not numbered one and marked by arrows) at the opposing right end of said air duct, as shown on Fig. 72), and an air flow generator (a fan) coupled to said inlet port (92) to produce the air flow, said duct coupled directly to a heat generating component (1) (an integrated circuit), **but** did not disclose a heat transfer means (a heat pipe), which is mounted via a clamp to the structure of the device.

On Fig. 49, 50A, Kitahara teaches another embodiment of the apparatus comprising a heat transfer means (a heat pipe) (55) having an evaporator portion coupled to the heat generating component (1) and a condenser portion coupled to the air duct (2-4), wherein the heat transfer means (heat pipe) is mounted to the structure of the device via a clamp (56) (Fig. 49) in order to provide good thermal coupling (column 23, lines 29-44).

It would have been obvious to person of ordinary skill in the cooling art at the time the invention was made to supplement the embodiment of Fig. 72 and 73 with the heat pipe mounted to the structure of the device via the clamp as taught by the embodiment depicted on Fig. 49, 50A, in order to adapt the embodiment of Fig. 72 and 73 for the situation when mounting directly on the heat generating component is not possible and to provide good thermal coupling between the heat pipe and the remaining structure of the device.

Regarding claims 45 and 52, Kitahara additionally **did not** disclose that the inlet port situated **at** a central point of the air duct. Kitahara teaches only that said inlet port is situated near the central point of the air duct as shown on Fig. 72 and 73.

It would have been obvious to one having ordinary skill in the cooling art at the time the invention was made to reposition said inlet port in any desirable way including moving it to the

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central point of said air duct, in order to enhance the air flow and to augment the rate of heat exchange, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claims 19, 36 and 52, the method steps recited in the claims are inherently necessitated by the device structure as disclosed by Kitahara.

Regarding claims 3, 22, and 39, Kitahara disclosed (Fig. 73) that the housing includes a first plate (2) and a second plate (91) having respective first and second internal surfaces, the first internal surface having a first array of protruding members that constitute internal fins (fins are clearly seen on Fig. 73).

Regarding claims 4, 11, 23 and, 40, Kitahara disclosed (Fig. 47 A, B) first and second plates (65, 66) having protruding fins on the respective internal surfaces.

6. Claims 8, 15, and 27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitahara in view of US/4,923,000 to Nelson.

Kitahara disclosed all, but resonate cantilever vibrator.

Nelson disclosed (Fig. 1) a resonate cantilever vibrator employed as a cooling fluid flow generator for a cooling fluid.

Since inventions of Kitahara and of Nelson are from the same field of endeavor (cooling), the purpose of the cantilever vibrator disclosed by Nelson would be recognized in the invention of Kitahara.

It would have been obvious to a person of ordinary skill in the cooling art at the time the invention was made to substitute conventional cooling fan of Kitahara with cantilever vibrator of

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Nelson in order to simplify the device and to enhance the heat transfer characteristics (see Nelson, column 1, lines 1+).

Response to Arguments

7. Applicant's arguments regarding the 35 USC § 251 rejection have been found persuasive, therefore the rejection has been withdrawn.

Applicant's arguments regarding the art rejection filed on 06/20/05 have been fully considered but they are moot in view of the new grounds of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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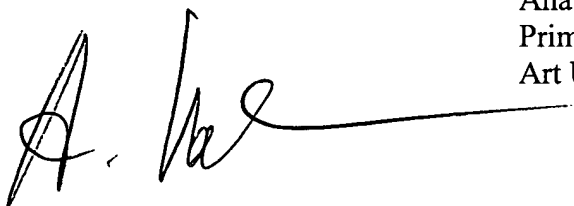
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AV

A handwritten signature in black ink, appearing to read 'A. Vortman', with a long horizontal line extending to the right.

Anatoly Vortman
Primary Examiner
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